

CLAIMS

1. A wireless communication network including push-to-talk (PTT) functionality, comprising:
 - a Presence Server operable to store data on active mobile devices;
 - a Session Initiation Protocol (SIP) Proxy Server;
 - a SIP Registrar and Location Server operable to store contact addresses of active mobile devices;
 - a PTT Server operable to function as a call endpoint for each of a plurality of mobile devices wherein the plurality of mobile devices are segmented into membership groups, the PTT Server further operable to multicast a communication from one member of the group to the other members of the group; and
 - an Internet Protocol (IP) network interconnecting the SIP Proxy server, the SIP Registrar and Location Server, and the PTT Server.
2. The network of claim 1 wherein the PTT server includes a signaling plane component and a media plane component
3. The network of claim 1, further including:
 - a Subscriber Database operable to store subscriber data.
4. The network of claim 1, further including:
 - a radio access network operable to wirelessly link the plurality of mobile devices to the IP network.
5. A method for user activation of push-to-talk (PTT) service in a wireless communication network, comprising:
 - initiating a session with a PTT Server wherein a user joins a group;
 - registering a contact for the user;
 - wherein the contact for the user is the PTT Server.
 - notifying members of the group of other members' presence.

6. The method of claim 5, wherein notifying members of the group of other members' presence includes:

requesting notification from the SIP Registrar by the presence server of users registering or deregistering the group's SIP URL as a contact;

notifying the presence server by the SIP Registrar of said registrations and deregistrations;

requesting from the presence server by members of the group information related to the presence of other group members;

notifying group members of said information related to the presence of other group members.

7. The method of claim 6 wherein the presence server requests notification from the SIP Registrar via an application programming interface.

8. The method of claim 7 wherein the SIP Registrar synchronously notifies the presence server of the request.

9. The method of claim 7 wherein the SIP Registrar asynchronously notifies the presence server of the request.

10. The method of claim 6, wherein the presence server requesting notification by the SIP Registrar, of users registering or deregistering as a contact the group's SIP URL, includes invoking a SIP SUBSCRIBE method.

11. The method of claim 6, wherein notifying the presence server by the SIP Registrar of said registrations and deregistrations includes invoking a SIP NOTIFY method.

12. The method of claim 10, wherein notifying the presence server by the SIP Registrar of said registrations and deregistrations includes sending a response to the SUBSCRIBE request.

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13. The method of claim 6, wherein requesting from the presence server by members of the group information related to the presence of other group members includes invoking a SIP SUBSCRIBE method.

14. The method of claim 6, wherein the presence server notifying group members of members' presence information includes invoking a SIP NOTIFY method.

15. The method of claim 6, wherein the presence server notifying group members of members' presence information includes sending a response to the SUBSCRIBE request.

16. A computer program, stored in a computer readable medium, for user activation of push-to-talk (PTT) service in a wireless communication network, the computer program comprising:

instructions for initiating a session with a PTT Server wherein a user joins a group;
instructions for registering a contact for the user;
instructions for wherein the contact for the user is the PTT Server.

instructions for notifying members of the group of other members' presence.

17. The computer program of claim 16 wherein the instruction for notifying members of the group of other members' presence includes:

instructions for requesting notification from the SIP Registrar by the presence server of users registering or deregistering the group's SIP URL as a contact;

instructions for notifying the presence server by the SIP Registrar of said registrations and deregistrations;

instructions for requesting from the presence server by members of the group information related to the presence of other group members; and

instructions for notifying group members of said information related to the presence of other group members.

18. The computer program of claim 17 further including instructions for the presence server to requests notification from the SIP Registrar via an application programming interface.
19. The computer program of claim 18 further including instructions for the SIP Registrar synchronously to notify the presence server of the request.
20. The computer program of claim 18 further including instructions for the SIP Registrar to asynchronously notify the presence server of the request.
21. The computer program of claim 17 wherein the instructions for the presence server to request notification by the SIP Registrar, of users registering or de-registering as a contact the group's SIP URL, includes instructions for invoking a SIP SUBSCRIBE method.
22. The computer program of claim 16, wherein the instructions for notifying the presence server by the SIP Registrar of said registrations and deregistrations includes instructions for invoking a SIP NOTIFY method.
23. The computer program of claim 22, wherein the instructions for notifying the presence server by the SIP Registrar of said registrations and deregistrations includes instructions for sending a response to the SUBSCRIBE request.
24. The computer program of claim 16, wherein requesting instructions for from the presence server by members of the group information related to the presence of other group members includes instructions for invoking a SIP SUBSCRIBE method.

26. The computer program of claim 16, wherein the instructions for the presence server to notify group members of members' presence information includes instructions for sending a response to the SUBSCRIBE request.

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